

Remarks

Claims 1-36 are pending in the present application; claims 22-24 have been withdrawn from consideration. Reconsideration is respectfully requested.

Examiner's Comment

Claims were amended as suggested by the Examiner in paragraph 6 of the Office action. These are not narrowing amendments nor are the amendments made in response to a statutory-based rejection. As the Examiner recognized, silica (or silicon oxide) was inadvertently recited in the claims as silica oxide. This is apparent when reviewing the specification at, e.g., p. 3, l. 5 and l. 25; p. 11, ll. 4-10.

Rejection of Claims 7, 9, 13-14 and 18-21 Under 35 USC §§ 102(b) or 103(a)

Claims 7, 9, 13-14 and 18-21 are rejected under 35 USC §§ 102(b) or 103(a) as allegedly being anticipated or obvious, respectively, in view of De Lajarte US Pat. No. 3,560,177. Applicants traverse this rejection.

The '177 patent recites, among other differences from the compositions claimed, a sodium oxide content of 27-34 wt.% and more preferably, 29-31 wt.% (see, e.g., c.2, ll. 23-31). The '177 composition requires sodium oxide contents significantly greater than those recited in amended claims 7 and 13. Claims 9 and 18-21 are dependent upon claims 7 and 13, respectively. Accordingly, claims 7, 9, 13-14 and 18-21 are allowable over the art of record. Claims 9, 14 and 18-21 are also allowable based on each claims' new and non-obvious combinations of components and features.

Rejection of Claims 7-10 Under 35 USC § 102(b)

Claims 7-10 are rejected under 35 USC § 102(b) as allegedly being anticipated by Harada US Pat. No. 5,817,586. Applicants traverse this rejection.

The '586 patent does not anticipate the present claims for at least two reasons. First, the '586 patent teaches ceramic compositions (crystalline solids), not the glass composition of present claim 7 (amorphous solids). Second, the generic chemical formula disclosed in the '586 patent is not sufficiently distinct to anticipate the specific composition of claim 7 in the present application. Each of these points is explained below.

The '586 Reference Discloses a Crystalline Ceramic
Composition, Not a Glass Composition that is Amorphous

Claim 7 of the subject application recites a glass composition. The '586 patent discloses ceramic compositions, not glass compositions. Ceramics have a crystalline structure whereas glass is amorphous. This difference is well known to those of ordinary skill in the art. Accordingly, claim 7 and any claim depending therefrom is allowable over the '586 reference.

The Generic Formula Disclosed in the '586 Patent is Not Sufficiently
Limited or Delineated to Anticipate the Composition of Claim 7

Besides the fact that the '586 patent teaches crystalline compositions (ceramics), the '586 patent does not teach or suggest the glass composition of claim 7 for other reasons as well. For example, the Examiner relies on disclosure in the '586 patent of broad ranges in the first shown Table (spanning columns 1 and 2 of the '586 patent specification). However, on further inspection of the '586 disclosure, which is directed to ceramic compositions not glass compositions, it is clear that the '586 patent does not teach or suggest any compositions within the ranges recited in claim 7 of the present application. Thus, the '586 patent does not and cannot anticipate claim 7.

As determined in prior Board cases and as set forth in the MPEP, an Examiner's hypothetical composition made up by choosing certain constituents from a long list of broad generic chemical ranges and formulae will only anticipate a species of that genus if the disclosure includes examples or other delineating teachings that arrive at the specific composition being rejected based on that generic chemical formula.

A genus does not always anticipate a claim to a species within the genus. ... When the compound is not specifically named, but instead it is necessary to select portions of teachings within a reference and combine them, e.g., select various substituents from a list of alternatives given for placement at specific sites on a generic chemical formula to arrive at a specific composition, anticipation can only be found if the classes of substituents are sufficiently limited or well delineated.

MPEP § 2131.02.

The '586 disclosure teaches the formulation of ceramic compositions. As such, each of the examples or disclosed species are compositions having silicon oxide in the range of about

32.3 wt% to about 41.9 wt% as can be seen by reviewing each of the disclosed examples 1-14, at col. 1, l. 31 through col. 7, l. 40. The specification even states that the content of SiO_2 is *preferably from about 32 to 50 wt%*. Claim 7 of the present application recites a silicon oxide range of from about 54-70 wt%. Clearly the '586 disclosure neither teaches nor suggests the claimed glass composition and thus does not anticipate the glass composition recited in claim 7.

For at least the reasons set forth above, claim 7 is allowable over the art of record. Claims 8-10 are dependent upon claim 7 and thus are allowable over the art of record as well. Claims 8-10 are also allowable over the art of record based on the unique and non-obvious combinations of features disclosed in each of those claims. For example, claim 9 recites a glass composition comprising about 1-2 wt% bismuth oxide. The examples or disclosed species in the '586 patent are compositions having much greater than 1-2 wt% bismuth oxide (see Tables 1 and 2 in the '586 disclosure).

Rejection of Claims 1-2, 4-9, and 11-12 Under 35 USC §§ 102(b) or 103(a)

Claims 1-2, 4-9, and 11-12 are rejected under 35 USC §§ 102(b) or 103(a) as allegedly being anticipated or obvious, respectively, in view of Int'l Pat. App. Pub. No. 95/09131 (WO '131). Applicants traverse this rejection.

First, Applicants note that although the first sentence in paragraph 12 of the Office action states "Claims 1-12, 4-9, and 11-12," it is clear from the remainder of that paragraph that the examiner had intended to write "Claims 1-2, 4-9, and 11-12." Accordingly, this rejection is addressed in regard to claims 1-2, 4-9, and 11-12, each as shown below.

Claim 1 has been amended in a manner that makes moot this particular rejection. Claims 2, 7, and 9 each recite bismuth oxide amounts greater than that disclosed in the examples or teachings of the WO '131 disclosure. As discussed above, a composition made up of choosing constituents from a long list of broad generic chemical ranges and lists will only anticipate a species of that genus if the disclosure includes examples or other delineating teachings that arrive at the specific composition being rejected based on that generic chemical formula. Claims 2, 4-6, 8-9, and 11-12 are allowable for these reasons as well as for being dependent upon allowable claims 1 or 7.

Claims 1-2 and 4-6 also recite bismuth oxide present in various but specific ranges and less than about 5 wt% CoO. There is only one example or delineated species of the '131

disclosure that discloses any bismuth oxide (example 43) and there is no CoO present in that example. Further, claims 7-9 and 11-12 recite about 54 wt% to about 70 wt% silica. The very few examples or delineated species of the '131 disclosure that include such an amount of silica include no bismuth oxide at all. Furthermore, claim 11 recites components of a composition, such as CaO at about 3-7 wt%, which components are not present in any of the examples or delineated teachings of the WO '131 disclosure. The '131 examples do not teach inclusion of CaO at all when Bi₂O₃ is present. As stated before, a composition made up of choosing constituents from a long list of broad generic chemical ranges or constituents will only anticipate a species of that genus if the disclosure includes examples or other delineating teachings that arrive at the specific composition being rejected based on that generic chemical formula. MPEP § 2131.02. This is clearly applicable to a reference like WO '131 which is distinctly directed toward teaching colored enamel compositions, not the glass compositions taught in the present application.

Accordingly, claims 1-2, 4-9, and 11-12 are allowable over the WO '131 reference. In addition, each of the claims 1-2, 4-9, and 11-12, whether discussed individually above or not, are also allowable for each claim's unique and non-obvious combination of features.

Rejection of Claims 13-15 and 17 Under 35 USC § 103(a)

Claims 13-15 and 17 are rejected under 35 USC § 103(a) as allegedly being obvious in view of US Pat. No. 3,537,868. Applicants traverse this rejection.

Claim 13 has been amended in such a manner that this rejection is moot. We note, however, that it is not a narrowing amendment as the glass fibers presently claimed are made from the disclosed glass compositions. As such, the glass fibers are substantially non-crystalline like the glass compositions. The '868 patent discloses crystalline composition only (see. E.g., col. 1, line 51 through col. 2, line 10). Accordingly, claim 13 and any claim depending therefrom is allowable over the '868 reference. Furthermore, there is no delineation or teaching, no species or examples, in the '868 reference that teach or suggest that including bismuth oxide, while the presently discussed claims require bismuth oxide. For example, see Table 2 listing 30 examples without a single example including bismuth oxide.

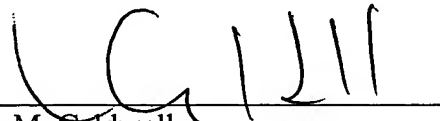
New claims 25-36 are added. No new matter is added by the amendments to the existing claims or the addition of the new claims and support for the new claims and claim amendments

is found throughout the specification, e.g., p. 11, lines 23-27; p. 3, Table 1; p. 9, lines 17-20; and p. 15, lines 9-1.

Respectfully submitted,

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